

REMARKS

Receipt of the Office Action of September 23, 2010 is gratefully acknowledged.

Regarding the IDS filed on July 14, 2010, the examiner has indicated that it "fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance.....about the content of the information..." Seven (7) documents were submitted with the noted IDS. All but one were in English or had an English abstract. The noted regulation (37 CFR 1.98 (a)(3)) does not require more for an English language document, only for one not in the English language. Accordingly, all but DE 42 21 848 should have been considered. As to DE 42 21 848, it relates very generally to the subject matter of the claimed invention here. It lacks, however, a teaching of almost all the features of claims 16 and 36, and in particular it lacks any teaching of the "evaluating a backward-looking chronological development" (found in claims 16 and 36).

It is therefore respectfully submitted that the IDS filed on July 14, 2010 be considered in the prosecution of this application.

Next, the examiner again rejects claims 16, 18, 19, 21, 23 and 25 - 35 under 35 USC 101 "because the claimed invention is directed to non-statutory subject matter," and also because "it does not perform a transformation...." As before, this rejection is respectfully traversed.

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The examiner has not considered the decision in the Supreme Court in the *Bilski v. Kappos*, 95 USPQ2d `1001 (Sup. Ct. 2010). The examiner

states on page 3 of the Office Action, "...the claimed invention is neither tied to a machine or apparatus, nor does it perform a transformation.." The Supreme Court specifically rejected the "machine-or-transformation test" as the exclusive test for determining the patentability of a method under 35 USC 101, and moreover, refused to declare business methods to be categorically unpatentable.

The method claims here are not directed to a business method and are not "mental steps." For example, does the examiner really believe that the "storing" step is intended to be done purely mentally? Undoubtedly not.

The method claims of this invention are certainly not directed to an abstract idea. According to the method, a point in time is predicted for the replacement of a sensor. There is nothing abstract about that. Instead this is concrete and tangible, since the predicted point in time is a representation of a wear state of a physical sensor. The invention defined by the method claims is not subject to rejection under 35 USC 101. Accordingly, this rejection should be withdrawn.

The rejection of claims 16, 18, 19, 21, 23 , 25 - 31 and 36 under 35 USC 103(a) over Choe in view of Polla et al is also respectfully traversed as is the rejection of claims 32 - 35 under 35 USC 103(a) over Choe in view of Polla et al and Khuri et al.

Choe does not disclose evaluating a backward-looking chronological development of the stored test parameters in order to perform functional monitoring by using a non-linear interpolation method for evaluating the historical development over time of the stored test parameters in order to obtain function parameters of a function describing the sensor behavior. Furthermore, Choe does not disclose predicting from the evaluations the

development of sensor behavior to be expected in the future.

Col 7, l. 13-15 refers to predicting various operating conditions of the gearbox, cf. col. 7, l. 4-12, not to predicting the development of sensor behavior. Col. 14, l. 1-15 refers to "a situation where it becomes difficult to detect which sensor, if any may be malfunctioning. (...) In this situation, processing unit 140 may use statistical analysis to determine whether or not one or both of the indicated sensors is malfunctioning." (col. 13, l. 65 - col. 14, l. 6). It is described that a mean-time-to failure analysis for a certain sensor can be used to determine whether or not one or both of the sensors is malfunctioning. If either of the sensors has operated beyond a mean time to failure, then an indication of sensor failure of that particular sensor may be made. The statistical determination of the failure of the sensor may alternatively be based upon historical data accumulated in the memory of the processing unit. However, this statistical analysis is only used for determining whether or not one of the several sensors present in the gearbox has failed. It is not used to predict the development of a sensor behavior in the future.

In col. 18, l. 58 - col. 19, l. 65, Choe describes a method of evaluating thresholds of sensed signals of temperature, pressure and vibration parameters, or of spectral components yielded by a Fourier transformation of the vibration measurement values. These thresholds are used to produce an alarm signal, when a sensed value exceeds one or more thresholds (col. 15, l. 51-55; col. 16, l. 9-12, col. 16, l. 39-43, l. 51-55, l. 59-65; col. 17, l. 28-35, col 18, l. 5-16). However, since the alarm signal is produced when the one or more thresholds have been exceeded already, the alarm signal is representative of a present condition. It is not a prediction of the development of sensor behavior to be expected in the future.

The Polla et al reference discloses a method for correcting temperature

measured values to remove distortions in the measurements caused by warpage of the sensor apparatus. A correction term E is evaluated and added to the measured sensor apparatus temperatures so as to obtain the corrected temperatures (col. 9, l. 36-38). This is a correction of present temperature values. Polla does not disclose predicting from said evaluations the development of sensor behavior to be expected in the future, either.

Since neither Choe nor Polla et al teach or even hint at predicting from evaluations of function parameters of a function describing the sensor behavior using backward-looking chronological development of test parameters the development of sensor behavior to be expected in the future and obtaining thereby information concerning the duration of remaining disturbance-free operation of the sensor, claim 16 is not obvious in view of Choe and Polla.

For similar reasons, claim 36 is not obvious in view of Choe and Polla, either.

With respect to new claim 40, please note that Choe does not disclose information concerning the duration of the remaining disturbance-free operation of the sensor determining and issuing or displaying a predictive point in time for replacement of the sensor, a sensor liquid or of wear parts of the sensor.

With respect to current claim 31, which includes the same limitations as new claim 40, the Examiner refers to col. 14, l. 20-23 of the Choe reference. However the corresponding passage reads: "It should also be appreciated that the noise level thresholds may include a range of values indicative of an acceptable range of normal operating conditions." There is no disclosure concerning displaying a predictive point in time for replacement of the sensor,

a sensor liquid or of a wear part of the sensor. Consequently, the method according to new independent claim 40 is not anticipated by Choe in view of Polla.

In view of the foregoing, reconsideration and reexamination are respectfully requested and claims 16, 18, 19, 21, 23 and 25 - 45 found allowable.

Respectfully submitted,



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